

**BORING LOG**PROJECT
METCALF ENERGY CENTERJOB NO.
24193-100SHEET NO.
1 OF 3HOLE NO.
B-113

SITE GAS TURBINE		COORDINATES N 1,905,172.41 E 6,198,861.45				ANGLE FROM HORIZ. 90°		BEARING	
BEGUN 4/22/1999	COMPLETED 4/23/1999	DRILLER TREATWELL & ROLLO (PITCHER DRILLING)			DRILL MAKE AND MODEL FAILING 1500	HOLE SIZE 4 3/4	OVERBURDEN 101.5	ROCK	TOTAL DEPTH 101.5
CORE RECOVERY		CORE BOXES NONE			SAMPLES 24	EL. TOP OF CASING	GROUND EL. 250.86	DEPTH/EL. OF GWT	DEPTH/EL. TOP OF ROCK
SAMPLE HAMMER WEIGHT/FALL 140 # \ 30 INCHES					CASING LEFT IN HOLE: DIA./LENGTH NONE			LOGGED BY: KR BELL	

SAMPLE TYPE AND DIAMETER	SAMPLE ADVANCE LENGTH CORE RUN	SAMPLE RECOVERY CORE RECOVERY	SAMPLE BLOWS "N" PERCENT CORE RECOVERY	PENETRATION			ELEVATION	DEPTH	GRAPHIC LOG	SAMPLE	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVEL WATER RETURN CHARACTER OF DRILLING
				BLOWS								
				1ST 6 INCHES	2ND 6 INCHES	3RD 6 INCHES						
MCS	18"	12"	11	6	7	4				1	Top 6" topsoil and roots (Organics)	0-2.5" 6" diameter
											Dark brown, medium stiff, SILT, dry	auger, below 2.5'
												wash boring with
SS	18"	12"	16	5	7	9		5		2	Dark brown, very stiff, SILT, trace clay, dry	drilling mud
SS	18"	12"	20	4	7	13				3	Brown, hard, SILT, trace clay and organics, dry	
SS	18"	12"	30	11	14	16		10		4	Brown, very stiff, SILT, dry	
SS	18"	14"	23	7	10	13				5	Brown, very stiff, SILT, trace clay, dry	
							238.86					
SS	18"	18"	7	2	3	4		15		6	Brown and gray mottled, medium stiff, silty CLAY to clayey SILT, moist	
SS	18"	18"	5	2	2	3				7	Brown and gray mottled, soft, silty CLAY, moist to wet	
								20				
SS	18"	18"	3	0	1	2				8	Brown and gray mottled, very soft, silty CLAY, trace fine sand, moist to wet	W.O.H for 10"
								25				
SS	18"	18"	8	2	3	5				9	Brown and gray mottled, medium stiff, silty CLAY, moist to wet	
								30				
SS	18"	18"	10	2	4	6	219.86			10	Top 12" same	
											Bottom 6" Brown, medium dense, fine SAND	Drill chatter at 32'
								35				

SS = SPLIT SPOON; ST = SHELBY TUBE; MCS = MODIFIED CALF. SAMPLER
D = DENNISON; P = PITCHER; O = OTHERSITE
GAS TURBINEHOLE NO.
B-113

FIGURE 10G4-5

**BORING LOG**PROJECT
METCALF ENERGY CENTERJOB NO.
24193-100SHEET NO.
2 OF 3HOLE NO.
B-113

SITE GAS TURBINE		COORDINATES N 1,905,172.41 E 6,198,861.45				ANGLE FROM HORIZ. 90°		BEARING	
BEGUN 4/22/1999	COMPLETED 4/23/1999	DRILLER TREATWELL & ROLLO (PITCHER DRILLING)		DRILL MAKE AND MODEL FAILING 1500	HOLE SIZE 4 3/4	OVERBURDEN 101.5	ROCK	TOTAL DEPTH 101.5	
CORE RECOVERY		CORE BOXES NONE		SAMPLES 24	EL. TOP OF CASING	GROUND EL. 250.86	DEPTH/EL. OF GWT		DEPTH/EL. TOP OF ROCK
SAMPLE HAMMER WEIGHT/FALL 140 # \ 30 INCHES				CASING LEFT IN HOLE: DIA./LENGTH NONE			LOGGED BY: KR BELL		

SAMPLE TYPE AND DIAMETER	SAMPLE ADVANCE LENGTH CORE RUN	SAMPLE RECOVERY CORE RECOVERY	SAMPLE BLOWS "N" PERCENT CORE RECOVERY	PENETRATION			ELEVATION	DEPTH	GRAPHIC LOG	SAMPLE	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVEL WATER RETURN CHARACTER OF DRILLING
				BLOWS								
				1ST 6 INCHES	2ND 6 INCHES	3RD 6 INCHES						
SS	18"	14"	35	16	16	21				11	Blackish brown, dense, medium to coarse SAND, and fine to coarse GRAVEL, trace silt	
								40				
SS	18"	18"	35	15	17	18				12	Blackish brown, dense, medium to coarse SAND, and fine to coarse GRAVEL, trace silt	
							207.86					
								45				
SS	18"	2"	60	10	21	39				13	Brown, very dense, gravel size rock fragments	
								50				
SS	18"	7"	71	20	33	38				14	Brown, very dense fine to coarse gravel size rock fragments, some clay	
							198.86					
								55				
SS	18"	12"	42	21	21	21				15	Grayish brown, dense, medium to coarse SAND, and fine to coarse GRAVEL	
								60				
SS	18"	9"	44	15	23	21				16	Grayish brown, dense, medium to coarse SAND, and fine to coarse GRAVEL, trace silt	
								65				
SS	18"	12"	74	19	34	40				17	Orangish brown, very dense, medium to coarse SAND, and fine to coarse GRAVEL, trace silt	
								70				

SS = SPLIT SPOON; ST = SHELBY TUBE; MCS = MODIFIED CALF. SAMPLER

SITE

HOLE NO.

D = DENNISON ; P = PITCHER; O = OTHER

GAS TURBINE

B-113

FIGURE 10G4-5

**BORING LOG**PROJECT
METCALF ENERGY CENTERJOB NO.
24193-100SHEET NO.
3 OF 3HOLE NO.
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SITE GAS TURBINE		COORDINATES N 1,905,172.41 E 6,198,861.45				ANGLE FROM HORIZ. 90°		BEARING	
BEGUN 4/22/1999	COMPLETED 4/23/1999	DRILLER TREATWELL & ROLLO (PITCHER DRILLING)			DRILL MAKE AND MODEL FAILING 1500	HOLE SIZE 4 3/4	OVERBURDEN (FT) 101.5	ROCK	TOTAL DEPTH 101.5
CORE RECOVERY		CORE BOXES NONE			SAMPLES 24	EL. TOP OF CASING	GROUND EL. 250.86	DEPTH/EL. OF GWT	DEPTH/EL. TOP OF ROCK
SAMPLE HAMMER WEIGHT/FALL 140 # \ 30 INCHES				CASING LEFT IN HOLE: DIA./LENGTH NONE			LOGGED BY: KR BELL		

SAMPLE TYPE AND DIAMETER	SAMPLE ADVANCE LENGTH CORE RUN	SAMPLE RECOVERY CORE RECOVERY	SAMPLE BLOWS "N" PERCENT CORE RECOVERY	PENETRATION			ELEVATION	DEPTH	GRAPHIC LOG	SAMPLE	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVEL WATER RETURN CHARACTER OF DRILLING
				BLOWS								
				1ST 6 INCHES	2ND 6 INCHES	3RD 6 INCHES						
SS	18"	12"	65	23	29	36				18	Brown, very dense, fine to medium SAND, some fine to coarse GRAVEL	
												Driller noted no change in drilling to 75'
							175.86	75				
SS	18"	10"	20	11	10	10				19	Gray, very stiff,CLAY, trace fine gravel	
								80				
SS	18"	4"	35	13	14	21				20	Gray, hard, silty CLAY, trace gravel	
								85				
SS	18"	18"	23	6	8	14				21	Gray and brown mottled, very stiff, silty CLAY	
								90				
SS	18"	18"	15	6	7	8				22	Brown, stiff, clayey SILT	
								95				
SS	18"	18"	33	10	14	19				23	Gray, hard, CLAY	Sample appeared to be sheared length wise
								100				
SS	18"	18"	32	9	14	18				24	Gray and brown mottled, hard, clayey SILT	
							149.36					
											Bottom of hole at 101.5 feet. Hole grouted to surface upon completion of drilling.	
								105				

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